A100

DIVE COMPUTER

OPERATING MANUAL

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Doc. No. 12-7271-r01 (4/25/12)

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⚠ **Pay special attention to items marked with this Warning symbol.**

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Welcome

to

AERIS

and

THANK YOU

for choosing the

A100

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AERIS, the AERIS logo type, A100, the A100 logo, Diver Replaceable Batteries, Graphic Diver Interface, Tissue Loading Bar Graph (TLBG), Pre Dive Planning Sequence (PDPS), Set Point, Control Console, and ACI (AERIS Computer Interface) are all registered and unregistered trademarks, trade names, and service marks of AERIS. All rights are reserved.

PATENT NOTICE
U.S. Patents have been issued, or applied for, to protect the following design features: Data Sensing and Processing Device (U.S. Patent no. 4,882,678), Ascent Rate Meter (U.S. Patent no. 5,156,055). Other patents pending. User Setable Display (U.S. Patent no. 5,845,235) is owned by Suunto Oy (Finland).

LIMITED TWO-YEAR WARRANTY
For details, refer to the Product Warranty Registration Card provided. Register on-line at www.diveaeris.com

DECOMPRESSION MODEL
The programs within the A100 simulate the absorption of nitrogen into the body by using a mathematical model. This model is merely a way to apply a limited set of data to a large range of experiences. The dive computer model is based upon the latest research and experiments in decompression theory. **Still, using the A100, just as using the U.S. Navy (or other) No Decompression Tables, is no guarantee of avoiding decompression sickness, i.e. "the bends."** Every diver's physiology is different, and can even vary from day to day. No machine can predict how your body will react to a particular dive profile.

FEATURES

AND

FUNCTIONS

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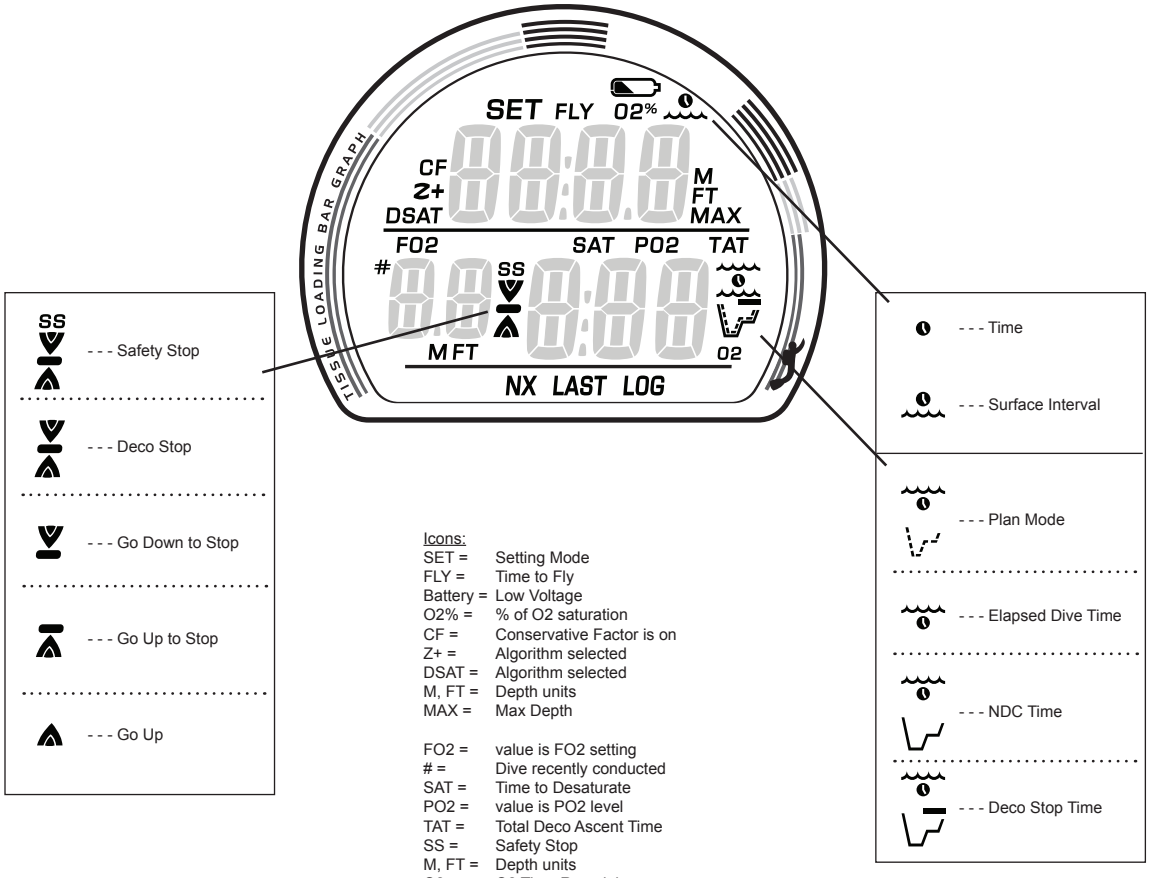
DISPLAY LAYOUT



Icons:

SET =	Setting Mode
FLY =	Time to Fly
Battery =	Low Voltage
O2% =	% of O2 saturation
CF =	Conservative Factor is on
Z+ =	Algorithm selected
DSAT =	Algorithm selected
M, FT =	Depth units
MAX =	Max Depth
FO2 =	value is FO2 setting
# =	Dive recently conducted
SAT =	Time to Desaturate
PO2 =	value is PO2 level
TAT =	Total Deco Ascent Time
SS =	Safety Stop
M, FT =	Depth units
O2 =	O2 Time Remaining
NX =	FO2 is set for Nitrox
LAST =	Data is for the Last dive
STOP =	Stop Depth required

CONTROL BUTTON (B)

The Control Button (B) allows you to select display options and access specific information when you want to see it.

Fig. 1 - DIAGNOSTIC

ACTIVATION & DIAGNOSTICS

A momentary press/release of any button will activate the unit. It will not activate at a depth deeper than 5 FT (1.5 M) or at an Altitude higher than 14,000 feet.

The unit has contacts that will cause it to activate and enter Dive Mode upon descent to 5 FT (1.5 M) for 5 seconds.

> The contacts are the button and the housing screws. Conductivity between any button and any screw (being wet) will satisfy the activation bridge.

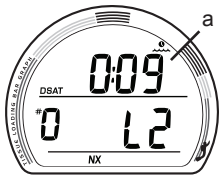


Fig. 2 - SURFACE MAIN

Upon wake up, the unit will check for depth once per second. If depth is not sensed within 10 minutes, it will enter PSM (Power Saver Mode). Once a dive is made, it will continue checking for depth until the Time to Fly and Time to Desaturate counters reach 0:00 (hr:min), 24 hours post dive max, and the unit shuts Off.

Immediately following manual (push button) activation (not if by wet activation), all segments of the LCD are displayed (Fig. 1) followed by a countdown from 8, -, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0 (approx 3 sec). If sensor readings and battery voltage are within tolerance, the Surface Main screen is displayed (Fig. 2).

> If any value is not acceptable, the failure description will flash for 5 seconds for each type failure. If more than one failure is sensed, the failures will be presented sequentially in the following order.
>
> > EEP >> Eeprom error; CAL >> Calibration error; ALT >> higher than 14000 feet or deeper than 5 feet; BAT >> Battery voltage too low (icon flashing); A-D >> A/d over range

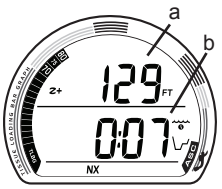


Fig. 3 - CURRENT DEPTH

Once the unit is activated, regardless of what mode it is in, it will enter Dive Mode upon descent to 5 FT (1.5 M) for 5 seconds.

While the Surface Main screen is displayed, access to other modes and screens is allowed. They will remain on display for 2 minutes or until the button is pressed to access another mode or screen.

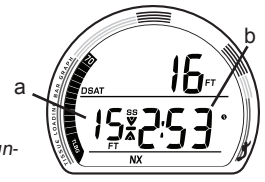


Fig. 4 - STOP DEPTH

ALPHA / NUMERIC DISPLAYS

It is imperative that you understand the formats, ranges, and values of the information represented to avoid any possible misunderstanding that could result in error.

Current Depth is displayed on the Main Dive screens (Fig. 3a).

While at a No Deco Safety or a Deco Stop, the required Stop Depth is displayed on the Main (Fig. 4a).

Max Depth is displayed on Alternate Dive screens (Fig. 5a).

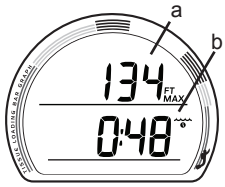


Fig. 5 - MAX DEPTH

Times are shown in various formats.

- Hour:Minute - Dive Time Remaining (Fig. 3b), Elapsed Dive Time (Fig. 5b), Surface Interval (Fig. 2a), Fly, Sat.
- Minute:Second - Safety Stop Time (Fig. 4b).

Altitude is displayed as a range from L2 to L7 on the Surface Main when at elevations above 3,000 feet. It is not displayed at Sea level, which extends up to 3,000 feet elevation. Refer to the table on page 23.

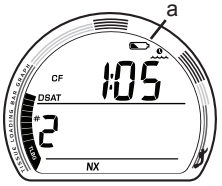


Fig. 6 - LOW BATTERY WARNING

POWER SUPPLY

- Battery >> (1) 3 vdc, CR2450, Lithium.
- Shelf life >> up to 5 years.
- Use life >> 100 dive hours if (1) 1 hour dive per dive day up to 300 dive hours if (3) 1 hour dives per dive day.
- Use life >> 300 dive hours if (2) 1 hour dives per dive day.
- Replacement >> by user (annual recommended).

BATTERY STATUS INDICATION

- Warning >> icon on solid (Fig. 6a) when < 2.75 volts, battery change recommended.
- Alarm >> icon on flashing when < 2.50 volts, change the battery.

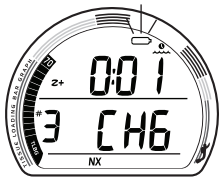


Fig. 7 - LOW BATTERY (occured during dive)

When the voltage is below that required for normal operation (< 2.50 volts), the graphics CHG and BAT will alternate and the Battery icon (shell only with no inner bar) will flash once per second for 5 seconds (Fig. 7), then the unit will shut off.

If a Low Battery Warning condition (< 2.75 volts) occurs during a dive, the system will continue to operate with normal displays and functions throughout that dive.

The Low Battery icon will not be displayed during dives (underwater). It will be displayed when the unit enters Surface Mode.

If a Low Battery Alarm condition (< 2.50 volts) occured during the dive, the graphics CHG and BAT will alternate after 10 minutes on the surface, then the unit will shut Off.

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LOW BATTERY WHILE ON THE SURFACE

<= 2.75 volts (warning level)
- Backlight is completely disabled.
- Battery icon (shell with inner bar) appears solid.
- If a dive is started, the icon is not displayed on the dive mode screens.
- All functions continue to be available.

<=2.50 volts (Too Low - alarm level)
- Battery icon (shell only) will flash for 5 seconds then the unit shuts off completely.

LOW BATTERY DURING A DIVE

<= 2.75 volts (warning level)
- Backlight is completely disabled.
- All other functions continue to be available.
- Battery icon is not displayed on the dive mode screens.
- Battery icon (shell with inner bar) appears solid upon entry into Surface Mode.

<= 2.50 volts (Too Low - alarm level)
- Backlight is completely disabled.
- All other functions continue to be available during the dive.
- Battery icon is not displayed on the dive mode screens.
- Upon surfacing, the Battery icon (shell only) flashes and the graphics CHG and BAT alternate for 10 minutes, then the unit shuts Off completely.

BATTERY CHANGE

While the battery is being replaced, calculations and Set Points will be held in memory for 8 seconds.

PSM (POWER SAVER MODE)

Once 10 minutes elapse while the unit is activated and on the surface prior to conducting any dives, or once 10 minutes elapse after the post dive transition period* has ended, the unit enters PSM (Power Saver Mode).

PSM turns the display off (Fig. 8) until the button is pressed at which time it turns back on.

During the time that the screen is off, all operations continue as normal in the background with current updated information displayed as soon as the screen comes on again.

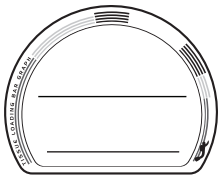

Fig. 8 - PSM

***Transition Period (upon surfacing) -**
- Operation shifts from Dive Mode to Surface Mode upon ascent to 2 FT (0.6 M) for 1 second.
- During the first 10 minutes after surfacing, the Surface Main screen will be displayed with Surface Interval time. Surface ALTs can be accessed to view other information pertaining to that dive.
- A descent during the first 10 minutes after surfacing is a continuation of that same dive.
- A descent made after the 10 minute interval has elapsed is then considered a new dive.

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SURFACE MODES

SURF MAIN, information includes (Fig. 9, 10):
> Surface Interval time (hr:min) with clock/wave (Surface Mode) icon; if no dive yet, this is time since activation.
> CF icon, if set On.
> DSAT (or Z+) icon, Algorithm selected.
> Dive number with # icon, up to 12 for that operating period (0 if no dive made yet).
> Altitude level graphic, if L2 (to L7), blank if Sea level.
> NX icon, if FO2 is set for Nitrox.
> TLBG, if any after a dive.
> Battery icon, if voltage is low.

Fig. 9 - SURFACE MAIN
(no dive yet)

- B (< 2 sec) to access ALT 1, then step forward through other Surface selections.

SURF ALT 1 (Last), information includes (Fig. 11):
> Max Depth* with FT (or M) and MAX icons.
> Elapsed Dive Time* (hr:min) with wave/clock icon.
> LAST icon, indicating that data is from the dive previously conducted.

**Dashes if no previous dive*

Fig. 10 - DIVE MAIN
(post dive)

- B (< 2 sec) to access ALT 2* (or Fly/Desat).
- Reverts to Main in 10 seconds if B is not pressed.

SURF ALT 2*, information includes (Fig. 12):
> Current O2% saturation with icon.
> Current FO2 set with FO2 & NX icons.
> PO2 alarm value, fixed at 1.40.

Fig. 11 - SURFACE ALT 1
(Last dive's data)

- B (< 2 sec) to access Fly/Desat.
- Reverts to Main in 10 seconds if B is not pressed.

**ALT 2 is not displayed if FO2 was set for AIR.*

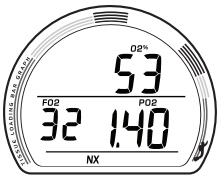

Fig. 12 - SURFACE ALT 2

SURFACE SEQUENCE
After the ALT screens, there is a sequence of selections in which you can -

> view Time to Fly/Desaturate.
> view Plan Depth/Time limits (NDLs).
> view Log data.
> set Gas (FO2).
> set Alarms (Depth, EDT, DTR).
> set Utilities (Units, Algorithm, Conservative Factor).
> view ID (Serial Number, Firmware Revision).

Press/release B repeatedly (< 2 sec each time), to step through the sequence then return to the Surface Main.

While in the sequence, operation will revert to the Surface Main if B is not pressed within a period of 2 minutes.

The sequence cannot be accessed during the first 10 minutes on the surface following a dive, only the ALTs.

FLY/DESAT TIME
FLY Time is a count down timer that begins counting down 10 minutes after surfacing from a dive from 23:50 to 0:00 (hr:min).

DESAT Time, also a count down timer, provides calculated time for tissue desaturation at sea level taking into consideration the Algorithm used and the Conservation Factor setting.

DESAT Time also begins counting down 10 minutes after surfacing from a dive, counting down from 23:50 (max), usually much less, to 0:00 (hr:min).

When the DESAT time reaches 0:00, which will generally occur prior to the FLY count down reaching 0:00, it will remain on the display until the FLY count down reaches 0:00.

> Desaturation requiring times greater than 24 hours will display 23: - - .
> In the event that Time to Desaturate still remains at the end of 24 hours, the added time will be zeroed.
> When other screens are accessed, the FLY and DESAT countdowns continue in the background.

FLY/DESAT, information includes (Fig. 13):
> Time to Fly countdown (hr:min) with FLY and clock (time) icons, dashes if no dive yet.
> Time to Desaturate countdown (hr:min) with SAT and clock (time) icons, dashes if no dive yet or a Violation dive.

- B (< 2 sec) to access Plan Lead-in.

Fig. 13 - FLY, DESAT

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PLAN MODE
No Deco time Limits (NDLs) and O2 time Limits (OTLs) in Plan Mode are based on the Algorithm selected (DSAT or Z+), the FO2 (Gas) set, and residual nitrogen (or O2) remaining from previous dives.

Fig. 14 - PLAN LEAD-IN
(Gas set for Air)

PDPS (Pre Dive Planning Sequence)
Plan screens will sequence through Depths from 30 to 190 FT (9 to 57 M), or the Max Depth that will allow theoretical No Deco Dive Time of at least 1 minute based upon the previous dive profiles in a series of repetitive dives and taking into account descent and ascent rates of 60 FPM (18 MPM).

When the Conservative Factor is set On, NDLs are reduced to the values of the next 3,000 foot (915 meter) higher Altitude. Refer to tables in back.

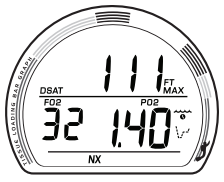

Fig. 15 - PLAN LEAD-IN
(Gas set for Nitrox)

Plan Lead-in, information includes (Fig. 14, 15):
> Z+ (or DSAT), CF, NX icons, if they apply.
> Graphic PLAN if Air, or -
Max Depth allowed for FO2 setting with FT (or M) and MAX icons if Nitrox.
> Graphic AIR with FO2 icon, or -
FO2 set (xx%) with FO2 icon, and PO2 alarm setting (fixed at 1.40) with PO2 icon if Nitrox.
> Plan mode icon (wave/clock/profile).

- B (2 sec) to access PDPS.
- B (< 2 sec) to step forward to Log Lead-in.

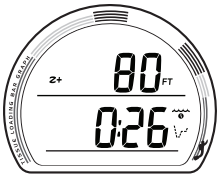

Fig. 16 - PDPS
(Gas set for Air)

PDPS, information includes (Fig. 16, 17):
> Z+ (or DSAT), CF, NX icons, if they apply.
> Plan Depth value with FT (or M) icon.
> FO2 set (xx%) with FO2 icon if Nitrox, blank if Air.
> NDC (No Deco) or O2 limit (hr:min) with mode icon (wave/clock/profile), with O2 if OTL.
> Plan mode icon (wave/clock/profile).

- B (< 2 sec), repeatedly, to step through screens one at a time from 30 to 190 FT (9 to 57 M) in increments of 10 FT (3 M), then repeat the step through.
- B (2 sec), at any time, to exit the PDPS and revert to the Plan Lead-in screen.

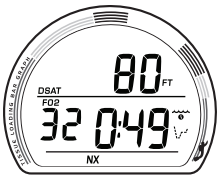

Fig. 17 - PDPS
(Gas set for Nitrox)

LOG MODE
Information from the latest 12 dives is stored for viewing. After exceeding 12 dives, the most recent dive is stored while the oldest is deleted.

> Dives are numbered from 1 to 12 starting each time the unit is activated. After 24 hours elapse with no dive, the first dive of the next period of operation is #1.
> 10 minutes after a dive, the Log screens for all dives stored can be viewed.

If a dive's elapsed time (EDT) exceeds 9:59 (hr:min), data at the 9:59 interval is recorded in the Log upon surfacing of the unit.

Log sequence = Lead-in > Preview > Data 1 > Data 2.

Log Lead-in, information includes (Fig. 18):
> Graphics Go To LOG.

- B (2 sec) to access the Log Preview screen, of the most recent dive recorded.
- B (< 2 sec) to step forward to Set Lead-in.
- 2 minutes, revert to Main if B is not pressed.

Fig. 18 - LOG LEAD-IN

Log Preview, information includes (Fig. 19):
> Graphics NONE and YET if no dive recorded yet, or -
pre dive Surface Interval (hr:min) with clock/wave icon, - : - - if # 1 (no previous dive that period), and -
graphic SEA (or L2 - L7), altitude level of dive.
> Dive number (1 to 12) with # icon.
> NX icon, if it applies.
> LOG icon.

- B (< 2 sec) to access that dive's Log Data 1 screen.
- B (2 sec) to revert to Log Lead-in.

Fig. 19 - LOG PREVIEW

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Log Data 1, information includes (Fig. 20):
> Z+ (or DSAT), CF, NX icons, if they apply.
> Max Depth with FT (or M) and MAX icons.
> Elapsed Dive Time (hr:min) with wave/clock (EDT) icon.
> TLBG with max segment flashing, others fixed up to end of dive accumulation. Blank if VGM.
> VARI, max Ascent Rate sustained for 4 sec.
> LOG icon.

Fig. 20 - LOG DATA 1

- B (< 2 sec) to access that dive's Log Data 2 screen if Nitrox, or revert to Preview if not.
- B (2 sec) to revert to Log Lead-in.

Log Data 2 (only if Nitrox), information includes (Fig. 21):
> O2% with icon, at end of dive.
> FO2 value set with icon.
> Max level of PO2 achieved with icon.
> NX and LOG icons.

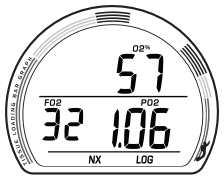

Fig. 21 - LOG DATA 2

- B (< 2 sec) to access the previous dive's Preview screen.
- B (2 sec) to revert to Log Lead-in.

SETTING FO2

FO2 can be set for Air, and 21 to 50% Nitrox. The PO2 Alarm is fixed at 1.40 with a Warning fixed at 1.20.

There is no FO2 50% Default setting like previous AERIS Nitrox dive computers.

FO2 set for Air:

The default FO2 each new period of activation is AIR.

When FO2 is set for AIR -

. . calculations are the same as when it is set for 21% O2.

. . it remains set for AIR until it is set for a numerical value (21 to 50%).

. . O2% and PO2 values and/or warnings will not be displayed at any time, on the surface or during dives.

. . max depths allowed by the PO2 limit set will not be displayed in Plan.

Internally, the unit will keep track of the oxygen loading so that if FO2 is later set for a numerical value of FO2, the oxygen accumulated during previous Air dives will be accounted for in the next Nitrox dive (during that series of repetitive dives).

FO2 set for Nitrox:

When FO2 is set for a numerical value (21 to 50%), the dive is considered Nitrox with the NX icon displayed on all applicable screens.

Once a dive is conducted with FO2 set for Nitrox, the Air option will be disabled until 24 hours elapse after the last dive. The Air option will not be displayed in Set FO2 until a full 24 hour Surface Interval has elapsed.

Fig. 22 - SET GAS LEAD-IN

SET GAS (FO2) LEAD-IN, information includes (Fig. 22):
> Graphics Go To GAS with SET icon.

- B (2 sec) to access Set Gas 1.
- B (< 2 sec) to step forward to Set ALM Lead-in.
- 2 minutes, revert to Main if B is not pressed.

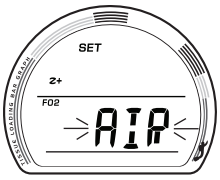

Fig. 23 - SET GAS
(for Air)

SET GAS, information includes (Fig. 23, 24):
> SET, FO2 icons.
> CF, Z+ (or DSAT) icons, if they apply.
> Graphic AIR flashing, or -
. . Max Depth allowed with FT (or M) and MAX icons.
. . FO2 (numeric) value flashing.
. . PO2 Alarm value with PO2 icon. *Fixed at 1.40 (no setting).*

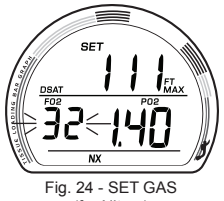

Fig. 24 - SET GAS
(for Nitrox)

- B (< 2 sec repeatedly) to step upward through the Set Points from Air to 21 through 50% in 1% increments.
- B (2 sec) to save the setting and revert to Set Gas Lead-in.

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SET ALM (ALARMS) LEAD-IN, information includes (Fig. 25):
> Graphics Go To and ALM with SET icon.

- B (2 sec) to access Set Depth Alarm.
- B (< 2 sec) to step forward to Set UTL Lead-in.
- 2 minutes, revert to Main if B is not pressed.

Fig. 25 - SET ALARMS LEAD-IN

SET DEPTH ALARM, information includes (Fig. 26):
This feature is not the same as the Delayed Violation depth alarm described later.

> SET icon.
> Graphic OFF (or ON) flashing, with Depth value last set with FT (or M) and MAX icons solid.

- B (< 2 sec) to step forward through the selections OFF, ON, and SET.
- B (2 sec) to save the selection and access Set EDT Alarm if OFF or ON is saved, or flash the Depth digits if SET is saved.

If SET is saved and the Depth digits are flashing >>
- B (< 2 sec, repeatedly) to step upward through the Set Points from 30 to 330 FT (10 to 100 M) in 10 FT (1 M) increments.
- B (2 sec) to save the Depth value (solid) and flash the graphic SET, allowing ON or OFF to be selected.

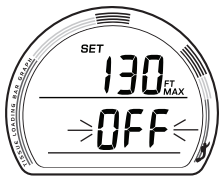

Fig. 26 - SET DEPTH ALARM

SET EDT ALARM, information includes (Fig. 27):
> SET icon.
> Graphic OFF (or ON) flashing, with Time value (hr:min) last set with wave/clock icon solid.

- B (< 2 sec) to step through the selections OFF, ON, and SET.
- B (2 sec) to save the selection and access Set DTR Alarm if OFF or ON is saved, or flash the Time digits if SET is saved.

If SET is saved and the Time digits are flashing >>
- B (< 2 sec, repeatedly) to step upward through Set Points from 0:10 to 3:00 (hr:min) in :05 increments .
- B (2 sec) to save the Time value (solid) and flash the graphic SET, allowing ON or OFF to be selected.

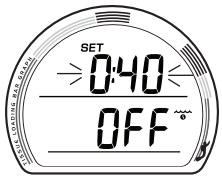

Fig. 27 - SET EDT ALARM

SET DTR ALARM, information includes (Fig. 28):
> SET icon.
> Graphic OFF (or ON) flashing, with Time value (hr:min) last set with wave/clock/profile icon solid.

- B (< 2 sec) to step through the selections OFF, ON, and SET.
- B (2 sec) to save the selection and revert to Set ALM if OFF or ON is saved, or flash the Time digits if SET is saved.

If SET is saved and the Time digits are flashing >>
- B (< 2 sec, repeatedly) to step upward through Set Points from 0:05 to 0:20 (hr:min) in :01 increments.
- B (2 sec) to save the Time value (solid) and flash the graphic SET, allowing ON or OFF to be selected.

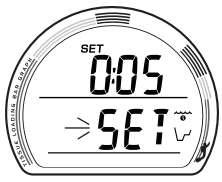

Fig. 28 - SET DTR ALARM

SET UTL (UTILITIES) LEAD-IN, information includes (Fig. 29):
> Graphics Go To UTL with SET icon.

- B (2 sec) to access Set Units.
- B (< 2 sec) to step forward to ID - SN.
- 2 minutes, revert to Main if B is not pressed.

Fig. 29 - SET UTILITIES LEAD-IN

SET UNITS, information includes (Fig. 30):
> Graphic UNIT with SET icon.
> Graphic IMP with FT icon (or MET with M icon) flashing.

- B (< 2 sec) to toggle between IMP (imperial) and MET (metric).
- B (2 sec) to save the setting and access Set Algorithm.

Fig. 30 - SET UNITS

SET ALGORITHM, information is to include (Fig. 31):
> Graphic ALGO with SET icon.
> Z+ (or DSAT) icon flashing.

- B (< 2 sec) to toggle between Z+ and DSAT.
- B (2 sec) to save the setting and access Set Conservative Factor.

When Z+ is selected, Ni-O2 related calculations are based on the Pelagic Z+ algorithm. When DSAT is selected, the calculations are based on the standard Pelagic DSAT algorithm.

The selection locks in for 24 hours after surfacing from a dive.

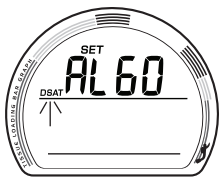

Fig. 31 - SET ALGORITHM

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SET CONSERVATIVE FACTOR, information is to include (Fig. 32):

> Graphic CONS with SET and CF icons.
> Graphic OFF (or ON) flashing.

- B (< 2 sec) to toggle between OFF and ON.
- B (2 sec) to save the setting and revert to Set UTL Lead-in.

When the Conservative Factor is set ON, NDLs, which are to be based on the Algorithm selected (DSAT or Z+), are reduced to the values available at the next higher (+ 3000 feet) Altitude. Ex: NDLs for Sea Level shift to those listed for the 5001 to 6000 foot Altitude range.

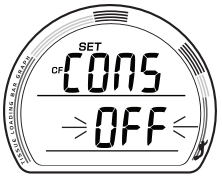

Fig. 32 - SET CF
(Conservative Factor)

ID - SN (Identification), information includes (Fig. 33):
This information should be recorded and kept, it will be required in the event that your unit requires factory service.

> Graphic R1A (or higher)*, indicating the Firmware revision level currently installed in the unit.
> Factory programmed serial number (up to 5 digits) with # icon.

**This number will change if the Firmware is updated with a newer version.*

Fig. 33 - IDENTIFICATION

- B (< 2 sec) to revert to Surface Main.
- B (2 sec) to access Clear, only after dives when residual nitrogen remains.
- 2 minutes, revert to Main if B is not pressed.

CLEAR, information includes (Fig. 34):
The unit is configured with a feature that allows nitrogen and oxygen calculations to be cleared. ***This is intended for facilities using the unit for rental or training activities, not for general use by individual divers.***

⚠ WARNING: Reset after a dive and subsequent use for a repetitive dive conducted by the same diver could result in serious injury or death.

Fig. 34 -CLEAR

Reset procedure:

- B (2 sec), while the ID-SN screen is displayed, to access the Clear screen displaying the graphic CLR and the reset code numbers xx yy, all solid.
- B (2 sec) again will flash the first 2 digits (xx).
- B (< 2 sec, repeatedly) to step upward through the first digits (xx) from 01 to 49.
- B (2 sec) to save the first 2 digits (xx) and flash the second 2 digits (yy).
- B (< 2 sec, repeatedly) to step upward through the second digits (yy) from 01 to 49.
- B (2 sec) to save the reset code, clear the unit (if 20 02), and turn it Off. All nitrogen/oxygen calculations and data will be deleted.
- B (6 sec) will revert to the ID-SN screen, if the reset code is not entered correctly, or you want to exit the routine without clearing the unit.

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DIVE MODE

FEATURES

WET ACTIVATION
The unit is configured with contacts that will automatically activate Dive Mode when the space between the contacts is bridged by a conductive material (immersed in water) and it senses a Depth of 5 FT (1.5 M).

The contacts are the metal pins of the PC Interface Data Port and the stems of the buttons.

Wet Activation cannot be set OFF.

BAR GRAPHS
The unit features 2 bar graphs, one on each side of the LCD.

> The TLBG (Tissue Loading Bar Graph) on the left (Fig. 35a) represents nitrogen loading.
> The VARI (Variable Ascent Rate Indicator) on the left (Fig. 35b) represents ascent rate.

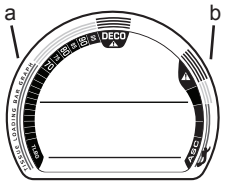


Fig. 35 - BAR GRAPHS

TLBG
The TLBG represents relative No Deco or Deco status.

The first 19 segments (13 normal, plus 6 caution*) represent No Deco status and all 20 indicate a Deco condition.

**The 6 caution segments represent nitrogen loading equal to 70, 75, 80, 85, 90, and 95 % allowable tissue loading for the current Depth and EDT.*

As Depth and Elapsed Dive Time increase, segments add to the TLBG beginning at the bottom.

During ascents and as post dive Surface Intervals elapse, as nitrogen is off gassed, segments recede indicating that additional No Deco time is available.

The unit monitors 12 different nitrogen compartments simultaneously and the TLBG displays the one that is in control of the dive at any given time.

VARI
The VARI provides a visual representation of ascent speed (i.e., an ascent speedometer).

The segments represent two sets of speeds which change at a reference depth of 60 FT (18 M). Refer to the chart.

When ascent is too fast, all segments of the VARI flash (Fig. 36) until ascent is slowed.

⚠ WARNING: At depths greater than 60 FT (18 M), ascent rates should not exceed 60 FPM (18 MPM). At depths of 60 FT (18 M) and shallower, ascent rates should not exceed 30 FPM (9 MPM).

60 FT (18 M) & Shallower

VARI Segments	Ascent Rate FPM	MPM
0	0 - 10	0 - 3
1	11 - 15	3.1 - 4.5
2	16 - 20	4.6 - 6
3	21 - 25	6.1 - 7.5
4	26 - 30	7.6 - 9
5	30 +	9 +

Deeper than 60 FT (18 M)

VARI Segments	Ascent Rate FPM	MPM
0	0 - 20	0 - 6
1	21 - 30	6.1 - 9
2	31 - 40	9.1 - 12
3	41 - 50	12.1 - 15
4	51 - 60	15.1 - 18
5	60 +	18 +

DUAL ALGORITHM®
The unit is configured with 2 algorithms which allows you to choose which set of NDLs (No Deco Limits) will be used for Ni/O2 calculations and displays relating to Plan and DTR (Dive Time Remaining). The selection will lock in for 24 hours after the dive.

You can select DSAT or Z+.

DSAT has been the standard used by AERIS in all of its dive computers until this time. It features NDLs that are based on exposures and test data which also formed validation for the PADI RDP. It imposes restrictions for repetitive Deco dives, considered more risky.

Z+ (Pelagic Z+) performance is based on Buhlmann ZHL-16c. It features NDLs that are considerably more conservative especially at shallower depths.

To create even greater margins of safety with respect to decompression, a Conservative Factor as well as a No Deco Safety Stop can be included for No Deco dives.

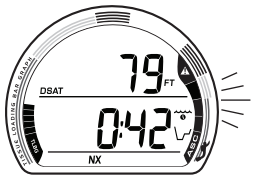


Fig. 36 - ASCENT TOO FAST

CONSERVATIVE FACTOR (CF)
When the CF is set On, the NDLs which are based on the algorithm selected and used for Ni/O2 calculations and displays relating to Plan and DTR, will be reduced to the values available at the altitude level that is 3,000 feet (915 meters) higher. Refer to the NDL charts in the back of this manual.

SAFETY STOP (SS), No Deco only
Upon ascent to 20 FT (6 M) for 1 second on a No Deco dive in which Depth exceeded 30 FT (9 M) for 1 second, a SS to be taken at 15 FT (4.5 M) will appear on the Main display with a countdown beginning at 3:00 (min:sec).

- In the event that you descend 10 FT (3 M) below the SS Depth for 10 seconds during the countdown, or the countdown reaches 0:00; the No Deco Main will replace the SS Main which will reappear upon ascent to 20 FT (6 M) for 1 second.
- In the event that you enter Deco during the dive, complete the Deco obligation, then descend below 30 FT (9 M); the SS Main will appear again upon ascent to 20 FT (6 M) for 1 second.
- If you surface during the SS countdown, the SS will be canceled for the remainder of that dive.
- There is no Penalty if you surface prior to completing the SS or ignore it.

DIVE TIME REMAINING (DTR)
Nitrogen loading and oxygen accumulation are constantly monitored, and whichever time is the least amount available (NDC or OTR) will be displayed as DTR on the No Deco Dive Main screen.

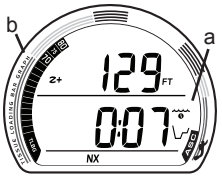


Fig. 37 - NO DECO MAIN
(NDC is DTR)

No Deco DTR (NDC)
NDC is the maximum amount of time that you can stay at your present depth before entering Deco. It is calculated based on the amount of Nitrogen absorbed by hypothetical tissue compartments.

The rates each of these compartments absorb and release Nitrogen is mathematically modeled and compared against a maximum allowable level.

Whichever compartment value is closest to this maximum level is in control for that Depth, and the value will be displayed as NDC time identified by the wave/clock/profile icon (Fig. 37a) and graphically as the TLBG (Fig. 37b).

As you ascend, the TLBG segments will recede as control shifts to slower compartments. This is a feature of the decompression model that is the basis for multilevel diving, one of the most important advantages that AERIS dive computers offer.

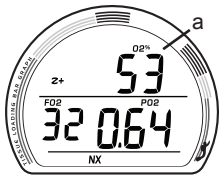


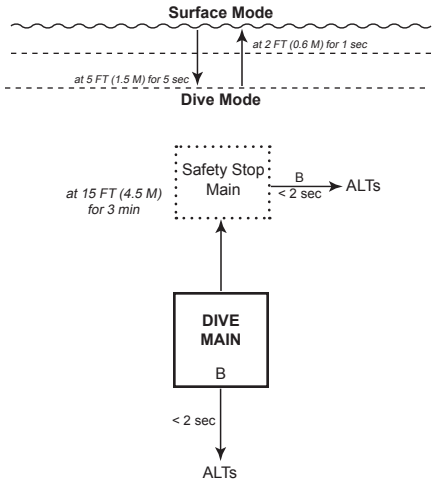
Fig. 38 - NO DECO ALT 3
(current % O2)

O2 Time Remaining (OTR)
During Nitrox operation, O2 accumulation during a dive, or 24 hour period, is displayed on an Alternate screen as a percent of O2 saturation allowed per dive or per day (Fig. 38a). Max allowed is 300 OTU (= 100%).

When time remaining before reaching the O2 limit becomes less than NDC, calculations for that Depth will be controlled by O2 and OTR will be displayed as DTR on the Dive Main (Fig. 39a).

Fig. 39 - NO DECO MAIN
(OTR is DTR)

DIVE MODE STRUCTURE



DIVE MODES

NO DECO MAIN, information includes (Fig. 40) -
> Z+ (or DSAT) icon, algorithm selected.
> CF icon, if set On.
> Current Depth with FT (or M) icon.
> DTR (hr:min) with wave/clock/profile (NDC) icon.
> NX icon, if FO2 is set for nitrox, blank if Air.
> TLBG, VARI, if they apply.

- B (< 2 sec) to access ALT 1.

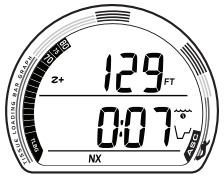


Fig. 40 - NO DECO MAIN

NO DECO ALT 1, information includes (Fig. 41) -
> Max Depth with FT (or M) and MAX icons.
> EDT (hr:min) with wave/clock icon.

- B (< 2 sec) to access ALT 2 if Nitrox, or revert to Main if Air.
- Revert to Main in 10 sec, if B is not pressed.

Fig. 41 - NO DECO ALT 1

NO DECO ALT 2 (only if Nitrox), information includes (Fig. 42) -
> Z+ (or DSAT) icon, algorithm selected.
> O2% accumulated with icon.
> FO2 with icon, value set.
> PO2 value (x.xx ATA) with icon.
> NX icon.

- 10 sec or B (< 2 sec) to revert to Main.

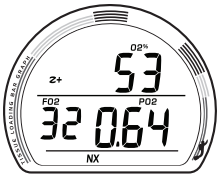


Fig. 42 - NO DECO ALT 2

SAFETY STOP MAIN, information includes (Fig. 43) -
> Z+ (or DSAT) icon, algorithm selected.
> CF icon, if set On.
> Current Depth with FT (or M) icon.
> Stop Depth with FT (or M) icon; fixed at 15 FT (4.5 M).
> Stop icon (arrows, bar) with SS icon.
> Stop Time (min:sec) with clock icon; start at 3 minutes.
> NX icon, if FO2 is set for Nitrox, blank if Air.
> TLBG, VARI, if they apply.

- B (< 2 sec) to access ALTs**.

*** The SS features up to 3 ALT displays which are similar to the No Deco Main, ALT1, and ALT2 displays, respectively.*

Fig. 43 - SS MAIN

DECOMPRESSION
Decompression mode activates when theoretical No Decompression time and depth limits are exceeded.

Upon entry into Deco, the full TLBG will flash (Fig. 44) for 10 seconds. The Stop Depth digits will flash while 10 FT (3 M) below the required Stop Depth.

> Once within 10 FT (3 M) below the required Stop Depth (stop zone), the Stop Depth digits will stop flashing.

To fulfill your decompression obligation, you should make a safe controlled Ascent to a depth slightly deeper than, or equal to, the required Stop Depth indicated and decompress for the Stop Time indicated.

The amount of decompression credit time that you receive is dependent on Depth, with slightly less credit given the deeper you are below the Stop Depth indicated.

You should stay slightly deeper than the required Stop Depth indicated until the next shallower Stop Depth appears. Then, you can slowly ascend to, but not shallower than that indicated Stop Depth.

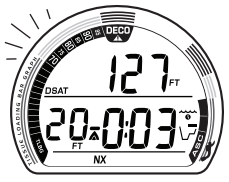


Fig. 44 - DECO ENTRY

DECO STOP MAIN, information includes (Fig. 45) -
> Z+ (or DSAT) icon, algorithm selected.
> CF icon, if set On.
> Current Depth with FT (or M) icon.
> Stop Depth with FT (or M) icon.
> Stop icon (arrows, bar).
> Stop Time (hr:min) with wave/clock/profile/bar (Deco) icon.
> NX icon, if FO2 is set for Nitrox, blank if Air.
> Full TLBG (all segments).

- B (< 2 sec) to access ALT 1.

Fig. 45 - DECO STOP MAIN

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DECO STOP ALT 1, information includes (Fig. 46) -
> Current Depth with FT (or M) icon.
> Total Ascent Time (hr:min) with TAT and clock icons.

- B (< 2 sec) to access ALT 2.
- Revert to Main in 10 sec, if B not pressed.

Fig. 46 - DECO STOP ALT 1

DECO STOP ALT 2, information includes (Fig. 47) -
> Max Depth with FT (or M) and MAX icons.
> EDT (hr:min) with wave/clock icon.

- B (< 2 sec) to access ALT 3 if Nitrox, or revert to Main if Air.
- Revert to Main in 10 sec, if B isnot pressed.

Fig. 47 - DECO STOP ALT 2

DECO STOP ALT 3 (only if Nitrox), information includes (Fig. 48) -
> Z+ (or DSAT) icon, algorithm selected.
> O2% accumulated with icon.
> FO2 with icon, value set.
> PO2 value (x.xx ATA) with icon.
> NX icon.

- 10 sec or B (< 2 sec) to revert to Main.

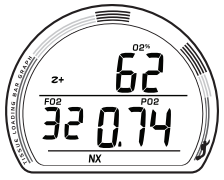

Fig. 48 - DECO STOP ALT 3

CV (CONDITIONAL VIOLATION)
Upon ascent above the required Deco Stop Depth, operation will enter CV during which no off gassing credit will be given, meaning Deco Stop Time and TAT will not decrease.

The Stop Depth digits will flash for 10 seconds. A Down Arrow will also flash (Fig. 49) until descent is made to below the required Stop Depth, then it is removed.

If descent below the required Deco Stop Depth is made within 5 minutes, operation will resume in Deco with off gassing credit given (Stop Time and TAT will decrease).

Fig. 49 - CV MAIN

DV 1 (DELAYED VIOLATION 1)
Once above the Deco Stop Depth for more than 5 minutes, operation will enter DV1 which is a continuation of CV**.

***The difference between DV1 and CV is that DV1 causes operation to enter Violation Gauge Mode 5 minutes after surfacing from that dive.*

The Stop Depth digits and full TLBG will flash for 10 seconds. The Down Arrow icon will flash (Fig. 50) until descent is made to below the required Stop Depth.

> Button operation and displays are similar to Deco.

When descent below the required Deco Stop Depth is made, operation will resume in Deco with off gassing credit given (Stop Time and TAT decrease).

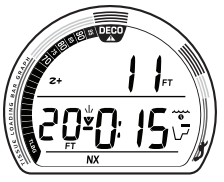

Fig. 50 - DV1 MAIN

DV 2 (DELAYED VIOLATION 2)
If the calculated Deco obligation requires a Stop Depth between 60 FT (18 M) and 70 FT (21 M), operation will enter DV2.

Upon entry into DV2**, the Audible will sound during which the alarm LED and full TLBG will flash. The Up Arrow icon will also flash until within 10 FT (3 M) of and below the required Stop Depth of 60 FT (18 M).

***The difference between DV2 and general Deco is that DV2 causes operation to enter Violation Gauge Mode 5 minutes after surfacing from that dive.*

> Once within 10 FT (3 M) of and below the required Stop Depth, the full Stop icon (Up and Down Arrows with Stop Bar) will be displayed solid (Fig. 51).
> Button operations and displays are similar to Deco.

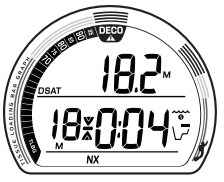

Fig. 51 - DV2 MAIN

DV 3 (DELAYED VIOLATION 3)
Upon descent deeper than the MOD**, the Up Arrow icon and the loaded segments of the TLBG will flash, and Current Depth and Max Depth will only indicate 3 dashes (- - -).

***MOD is the Max Operating Depth at which the A100 can accurately perform calculations and display data.*

MOD = 330 FT (100 M)

Upon ascending above the MOD, Current Depth will be restored, however, Max Depth will display 3 dashes for the remainder of that dive. Also, the Log for that dive will display 3 dashes as the Max Depth.

DV3 MAIN, information includes (Fig. 52) -
> Z+ (or DSAT) icon, algorithm selected.
> CF icon, if set On.
> Current Depth as 3 dashes (- - -) with FT (or M) icon, flashing until above MOD.
> Up Arrow icon, flashing until above MOD.
> DTR as 3 dashes (- : - -) with wave/clock/profile (NDC) icon.
> NX icon, if FO2 is set for Nitrox, blank if Air.
> TLBG, VARI while ascending.

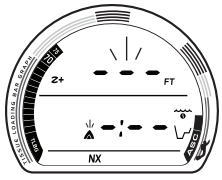

Fig. 52 - DV3 MAIN

- B (< 2 sec) to access ALT 1.

> ALTs are similar to No Deco or Deco, whichever applies.

VGM (VIOLATION GAUGE MODE)
If a Deco Stop Depth greater than 70 FT (21 M) is required, operation will enter VGM. This would be preceded by DV2.

Operation would then continue in VGM during the remainder of that dive and for 24 hours after surfacing.

VGM turns the unit into a digital instrument without any decompression or oxygen related calculations or displays.

Upon activation of VGM, the full TLBG will flash for 10 sconds, then it is removed. The graphics UP VIO and Up Arrow icon will also be displayed flashing in place of Deco Stop data, until on the surface.

Fig. 53 - VGM MAIN

VGM Dive Main, after 10 sec information includes (Fig. 53) -
> Current Depth with FT (or M) icon.
> Graphics UP VIO with Up Arrow icon, flashing until on surface.
> VARI, while ascending.

- B (< 2 sec) to access ALT (EDT & Max Depth).

VGM on Surface
The graphic VIO flashes for the first 10 minutes (Fig. 54), then VIO remains on solid until unit shut down after 24 hours with no dives*.

Fig. 54 - VGM
(first 10 min on surface)

**A full 24 hour surface interval must then be served before all functions are restored.*

During that 24 hours, access to all selections and screens is available except those associated with Ni-O2 calculations such as Desat, Plan, Set FO2. The Fly countdown timer provides the time remaining (of the 24 hours required) before normal operation can resume with full features and functions.

HIGH PO2
Warning >> at 1.20 only.
Alarm >> at 1.40 only, except in Deco then at 1.60 only.

When partial pressure of oxygen (PO2) increases to the Warning level, the graphic UP, Up Arrow icon, and PO2 value with icon will flash in place of DTR (Fig. 55).

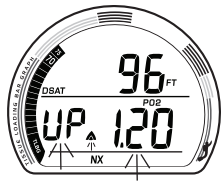

Fig. 55 - PO2 WARNING

> After 10 seconds, DTR is restored, and the graphic UP and Up Arrow icon remain on solid until PO2 decreases below the warning level when they are removed.

If PO2 continues to increase and reaches the PO2 Alarm level, the graphic UP, Up Arrow icon, and PO2 value with icon will flash in place of DTR.

> After 10 seconds, DTR will alternate with the PO2 value, and the graphic UP and Up Arrow icon remain on solid (Fig. 56) until PO2 decreases below the warning level when they are removed.

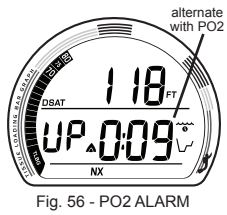

Fig. 56 - PO2 ALARM

- B (< 2 sec) to access ALTs which are similar to No Deco.

PO2 during Deco
When PO2 reaches 1.60, the Audible will sound during which the PO2 value with icon will flash in place of Stop Time.

> After 10 seconds, the PO2 value with icon will alternate with Stop Time once each minute* (Fig. 57).

**PO2 will be displayed flashing for 10 seconds, then Stop Time will be displayed for 50 seconds once each minute until PO2 decreases below 1.60, then PO2 will not be displayed.*

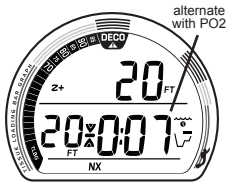

Fig. 57 - PO2 ALARM
(after 10 sec, Deco)

HIGH O2
Warning >> at 80 to 99% (240 OTU).
Alarm >> at 100% (300 OTU).

When O2 reaches the Warning level, the O2 value with O2% icon will flash in place of Depth (Fig. 58), then Depth will be restored. *No indication (Up Arrow) is given to ascend.*

If O2 reaches the Alarm level, the graphic UP, Up Arrow icon, and the O2 value with O2% icon (in place of Depth) will flash (Fig. 59). After 10 seconds, Depth will be restored, the graphic UP with Up Arrow icon will remain on flashing until on the surface, and the graphic O2 will replace DTR (Fig. 60).

- B (< 2 sec) to access ALTs which are similar to No Deco.

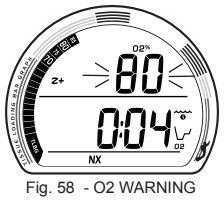

Fig. 58 - O2 WARNING
(during 10 sec)

High O2 during Deco
When O2 reaches the Warning Level, the O2 value with O2% icon will flash in place of Depth (similar to Fig. 58), then Depth will be restored. *No indication (Up Arrow) is given to ascend.*

If O2 reaches the Alarm level, the graphic UP (in place of Stop Depth), Up Arrow icon, and the O2 value with O2% icon (in place of Depth) will flash, Stop Time will display 3 dashes - : - - (Fig. 61). After 10 seconds, Depth will be restored, the graphic UP with Up Arrow icon will remain on flashing until on the surface, and the graphic O2 will replace Stop Time. *The full TLBG remains on solid as a reminder of Deco.*

- B (< 2 sec) to access ALTs which are similar to Deco.

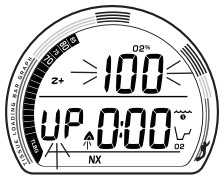

Fig. 59 - O2 ALARM
(during 10 sec, No Deco)

High O2 on Surface
Upon ascent to 2 FT (0.6 M) for 1 second (surfacing), the Surface Main screen is displayed (similar to Fig. 62). During the first 10 minutes, access to the Surface ALTs is allowed with other modes and screens blocked until the 10 minutes elapse.

> If O2 is 100%, the value with O2% icon will flash on the Main in place of Surface Interval (SI) time until 10 minutes elapse, then it will alternate with SI until it is < 100% when SI will be restored.
> If you surface due to 100% O2 without having completed the Deco obligation, operation will enter VGM after 5 minutes.

Fig. 60 - O2 ALARM
(after 10 sec, No Deco)

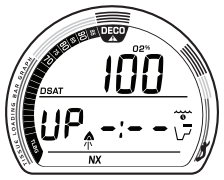

Fig. 61 - O2 ALARM
(during 10 sec, Deco)

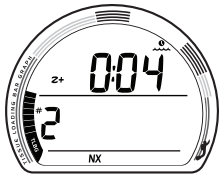

Fig. 62 - SURFACE MAIN

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REFERENCE

CAUTION: When the procedure provided in this section is used to change the Battery, you must be sure that the case o-ring is not pinched and that the unit is water tight before conducting diving actvities. Pre dive pressure testing by an Authorized AERIS facility is highly recommended.

CARE AND CLEANING

Protect your unit from shock, excessive temperatures, exposure to chemicals, and tampering. Protect the lens against scratches with a Instrument Lens Protector. Small scratches will naturally disappear underwater.

- Soak and rinse the unit in fresh water at the end of each day of diving, and check to ensure that the areas around the openings leading to the Low Pressure (Depth) Sensor (Fig. 63a) and Button are free of debris or obstructions.
- To dissolve salt crystals, soak in lukewarm water or a slightly acidic bath (50% white vinegar/50% fresh water). After removal from the bath, place the unit under gently running fresh water and towel dry before storing.
- Transport your dive computer cool, dry, and protected.

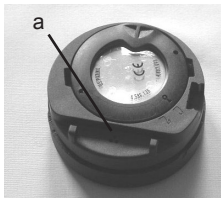

Fig. 63 - CASE BACK

INSPECTIONS AND SERVICE

Your dive computer should be inspected annually by an Authorized AERIS Dealer who will perform a factory prescribed function check and inspection for damage or wear. To keep the 2 year limited warranty in effect, this inspection must be completed one year after purchase (+/- 30 days).

AERIS recommends that you continue to have an inspection performed every year to ensure it is working properly. The costs of annual inspections are not covered under the terms of the 2 year limited warranty.

To Obtain Service:

Take your dive computer to an Authorized AERIS Dealer.

To return your unit to AERIS:

- Record all data in the Log. All data will be erased during factory service.
- Package it using a protective cushioning material.
- Include a legible note stating the specific reason for return, your name, address, daytime phone number, serial number, and a copy of your original sales receipt and Warranty Registration Card.
- Send freight prepaid and insured using a traceable method to AERIS.
- If shipping to AERIS, obtain an RA (Return Authorization) number by contacting AERIS Customer Service at 510/546-0010 or send an email to info2@diveaeris.com.
- Non warranty service must be prepaid. COD is not accepted.
- Additional information is available at the AERIS web site >>>>

diveaeris.com

The procedures that follow must be closely adhered to to avoid entrance of water into the unit. Damage due to improper Battery replacement (or subsequent leakage of moisture into the unit) is not covered by the product's 2 year warranty.

MODULE REMOVAL FROM BOOT

If the module is in a console, bend the rubber console boot back to expose the edge of the module. If the boot is flexible enough to permit, you may bend it back far enough to scoop the module out with your finger. Otherwise, it may be necessary to insert a blunt screwdriver until the tip rests just underneath the module.

DO NOT pry the module from the console! Slowly increase the pressure under the module by releasing the tension on the rubber boot. The module will slide up the screwdriver and exit the console.

If the module is in a wrist boot, it will be necessary to peel the lips of the boot downward off the module while applying pressure from underneath, working it out slowly.

When the battery is replaced within 8 seconds, settings and calculations for repetitive dives are retained in memory for repetitive dives.

BATTERY REPLACEMENT

The battery compartment should only be opened in a dry and clean environment with extreme care taken to prevent the entrance of moisture or dust.

To prevent formation of moisture in the battery compartment, it is recommended that the battery be changed in an environment equivalent to the local outdoor temperature and humidity (e.g., do not change the battery in an air conditioned environment, then take it outside during a hot sunny day).

Battery Cover Removal

- Turn the module over to expose the Battery Cover.
- While applying steady inward pressure on the center of the Battery Cover, rotate the Retaining Ring 10 degrees clockwise by pressing against the upper tab of the Ring with a small blade screwdriver (Fig. 64).
- Lift the Ring up and away from the Housing, or turn the Module over to allow the Ring to drop out into your hand.
- Remove the Battery Cover.

Fig. 64 - COVER RING

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Battery Removal
- Remove the Retaining Bar located across the lower portion of the Battery (Fig. 65a).
- Remove the Cover O-ring. DO NOT use tools.
- Slide the Battery up and out of the Battery Compartment.

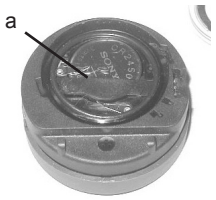

Fig. 65 - RETAINING BAR

Inspection
- Closely check all of the sealing surfaces for any signs of damage that might impair proper sealing.
- Inspect the Button, Lens, and Housing to ensure they are not cracked or damaged.

⚠ WARNING: If damage or corrosion is found, return the unit to an Authorized AERIS Dealer, and DO NOT attempt to use it until it has received factory prescribed service.

Battery Installation
- Slide a new 3 volt type CR2450 Lithium Battery, (-) negative side down into the Battery Compartment. Slide it in from the right side and ensure that it slides under the contact clip on the left rim (Fig. 66).
- Orient the Retaining Bar across the lower portion of the Battery and carefully push it down into position (Fig. 67).

Fig. 66 - BATTERY

Battery Cover and Retaining Ring Installation
- Lightly lubricate a new Cover O-ring* with silicone grease and place it on the inner rim of the Battery Cover (Fig. 68). Ensure that it is evenly seated.

**The O-ring must be a genuine AERIS part that can be purchased from an Authorized AERIS Dealer. Use of any other O-ring will void the warranty.*

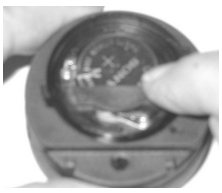
Fig. 67 - RETAINING BAR

- Slide the Cover Ring, top portion first (small opening), onto your thumb.
- Carefully place the Battery Cover (with O-ring) into position on the rim of the Battery Compartment, then press it evenly and completely down into place with your same thumb.
- Maintain the Battery Cover securely in place and, using your other hand, slide the Cover Ring down off your thumb and into position around the Battery Compartment.
- The tabs on the Cover Ring fit down into the two slots located at the 2 and 8 o'clock positions.
- Using your fingers, turn the Ring counter clockwise 5 degrees until the tabs engage (Fig. 69), then tighten it 5 more degrees by turning it counter clockwise with the aide of a small blade screwdriver (Fig. 70).
- While tightening the Retaining Ring, exert continuous inward pressure on it until it is secured in the proper position. A small symbol located on the Ring should be aligned with the Locked symbol located on the Housing (Fig. 71a).

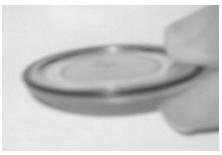
Fig. 68 - COVER O-RING

Inspection
- Activate the unit and watch carefully as it performs a full diagnostic and battery check, and enters Surface Mode.
- Observe the LCD display to ensure it is consistently clear and sharp in contrast throughout the screen.

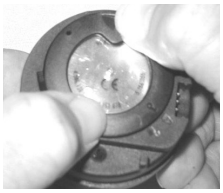
Fig. 69 - TABS ENGAGE

⚠ WARNING: If there are any portions of the display missing or appearing dim, or if a Low Battery condition is indicated, return the unit to an Authorized AERIS Dealer for a complete evaluation before attempting to use it.

RETURNING THE MODULE TO BOOT
- If the boot was fitted with a spacer and it was previously removed, replace the spacer into the boot.
- Orient the module over the opening in the boot, and dip the bottom edge into it while pressing the top edge with the palm of your hand. Stop pressing when the bottom edge of the module has just entered the boot.
- Correct the alignment of the module as needed so that it is straight.
- Press the module completely into place with your thumbs, watching the alignment, until it snaps into place.

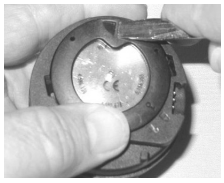
Fig. 70 - TABS TIGHT

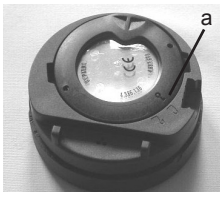

Fig. 71 - RING SECURE

ALTITUDE SENSING AND ADJUSTMENT

Altitude (i.e., ambient pressure) is measured upon activation and every 15 minutes until a dive is made.

> Measurements are only taken when the unit is dry.
> Two readings are taken, the second reading 5 seconds after the first. The readings must be within 1 foot (30 cm) of each other to record that ambient pressure as the current Altitude.
> No adjustments are made during any time that the Wet Contacts are bridged.
> When diving in high altitude waters from 3,001 to 14,000 feet (916 to 4,270 meters), the A100 automatically adjusts to these conditions providing corrected Depth, and reduced No Deco and O2 Times at intervals of 1,000 feet (305 meters).
> At Sea Level, calculations are based upon an Altitude of 6,000 feet.
> All adjustments for Altitudes greater than 11,000 feet (3,355 meters) are then made to allowable dive times for 14,000 feet (4,270 meters).
> The A100 will not function as a Dive Computer above 14,000 feet (4,270 meters).

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TECHNICAL DATA

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DSAT BASED NDLS (HR:MIN)
(IMPERIAL)

Altitude (feet)	0 to 3000	3001 to 4000	4001 to 5000	5001 to 6000	6001 to 7000	7001 to 8000	8001 to 9000	9001 to 10000	10001 to 11000	11001 to 12000	12001 to 13000	13001 to 14000
Depth (FT)												
30	4:20	3:21	3:07	2:55	2:45	2:36	2:28	2:21	2:15	2:10	2:04	1:58
40	2:17	1:43	1:36	1:30	1:25	1:20	1:16	1:12	1:09	1:06	1:03	1:01
50	1:21	1:03	1:00	0:58	0:55	0:52	0:48	0:45	0:43	0:41	0:39	0:37
60	0:57	0:43	0:40	0:38	0:36	0:34	0:33	0:31	0:30	0:29	0:28	0:27
70	0:40	0:31	0:30	0:28	0:27	0:26	0:24	0:23	0:22	0:20	0:19	0:18
80	0:30	0:24	0:23	0:21	0:20	0:19	0:18	0:17	0:16	0:16	0:14	0:13
90	0:24	0:19	0:18	0:17	0:16	0:15	0:14	0:13	0:12	0:11	0:10	0:10
100	0:19	0:15	0:14	0:13	0:12	0:11	0:10	0:10	0:09	0:09	0:08	0:08
110	0:16	0:12	0:11	0:10	0:09	0:09	0:08	0:08	0:08	0:07	0:07	0:07
120	0:13	0:09	0:09	0:08	0:08	0:08	0:07	0:07	0:07	0:06	0:06	0:06
130	0:11	0:07	0:07	0:07	0:06	0:06	0:06	0:06	0:05	0:05	0:05	0:05
140	0:09	0:07	0:07	0:06	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05
150	0:08	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04	0:04
160	0:07	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04
170	0:07	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:04	0:03
180	0:06	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03
190	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03

DSAT BASED NDLS (HR:MIN)
(METRIC)

Altitude (meters)	0 to 915	916 to 1220	1221 to 1525	1526 to 1830	1831 to 2135	2136 to 2440	2441 to 2745	2746 to 3050	3051 to 3355	3356 to 3660	3661 to 3965	3966 to 4270
Depth (M)												
9	4:43	3:37	3:24	3:10	2:58	2:48	2:39	2:31	2:24	2:18	2:12	2:07
12	2:24	1:52	1:44	1:37	1:30	1:25	1:21	1:17	1:13	1:10	1:07	1:04
15	1:25	1:06	1:03	1:00	0:57	0:55	0:52	0:49	0:46	0:43	0:41	0:39
18	0:59	0:45	0:42	0:40	0:38	0:36	0:34	0:32	0:31	0:30	0:29	0:28
21	0:41	0:33	0:31	0:29	0:28	0:27	0:26	0:24	0:23	0:21	0:20	0:19
24	0:32	0:26	0:24	0:22	0:21	0:20	0:19	0:18	0:17	0:16	0:15	0:14
27	0:25	0:19	0:18	0:17	0:16	0:16	0:14	0:13	0:12	0:12	0:11	0:10
30	0:20	0:16	0:15	0:13	0:12	0:12	0:11	0:10	0:10	0:09	0:09	0:08
33	0:17	0:12	0:11	0:11	0:10	0:09	0:09	0:08	0:08	0:08	0:07	0:07
36	0:14	0:10	0:09	0:09	0:08	0:08	0:07	0:07	0:07	0:06	0:06	0:06
39	0:11	0:08	0:08	0:07	0:07	0:07	0:06	0:06	0:06	0:06	0:05	0:05
42	0:09	0:07	0:07	0:07	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05
45	0:08	0:06	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04
48	0:07	0:06	0:06	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04
51	0:06	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:04
54	0:06	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03
57	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03

ALTITUDE LEVELS

Display:	Range:
• SEA = Level 1 (Sea Level)	0 to 3,000 feet (0 to 915 meters)
• L2 = Level 2	3,001 to 5,000 feet (916 to 1,525 meters)
• L3 = Level 3	5,001 to 7,000 feet (1,526 to 2,135 meters)
• L4 = Level 4	7,001 to 9,000 feet (2,136 to 2,745 meters)
• L5 = Level 5	9,001 to 11,000 feet (2,746 to 3,355 meters)
• L6 = Level 6	11,001 to 13,000 feet (3,356 to 3,965 meters)
• L7 = Level 7	> 13,000 feet (3,965 meters)

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Z+ BASED NDLS (HR:MIN)
(IMPERIAL)

Altitude (feet)	0 to 3000	3001 to 4000	4001 to 5000	5001 to 6000	6001 to 7000	7001 to 8000	8001 to 9000	9001 to 10000	10001 to 11000	11001 to 12000	12001 to 13000	13001 to 14000
Depth (FT)												
30	3:17	2:30	2:21	2:14	2:08	2:02	1:57	1:52	1:47	1:39	1:34	1:29
40	1:49	1:21	1:15	1:11	1:08	1:05	1:02	1:00	0:57	0:55	0:53	0:51
50	1:05	0:53	0:51	0:49	0:47	0:44	0:42	0:39	0:37	0:35	0:34	0:33
60	0:48	0:37	0:35	0:33	0:32	0:30	0:28	0:26	0:24	0:23	0:22	0:21
70	0:35	0:26	0:24	0:23	0:21	0:20	0:19	0:18	0:17	0:16	0:16	0:14
80	0:26	0:19	0:18	0:17	0:16	0:15	0:14	0:13	0:12	0:11	0:11	0:10
90	0:19	0:15	0:14	0:13	0:12	0:11	0:10	0:10	0:09	0:09	0:08	0:08
100	0:16	0:11	0:10	0:10	0:09	0:09	0:08	0:08	0:07	0:07	0:07	0:07
110	0:12	0:09	0:08	0:08	0:08	0:07	0:07	0:07	0:06	0:06	0:06	0:05
120	0:10	0:08	0:07	0:07	0:07	0:06	0:06	0:06	0:05	0:05	0:05	0:05
130	0:08	0:07	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04
140	0:07	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04
150	0:06	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03
160	0:06	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03
170	0:05	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03	0:03
180	0:05	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03	0:03	0:03	0:03
190	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03	0:03	0:03	0:03	0:00

Z+ BASED NDLS (HR:MIN)
(METRIC)

Altitude (meters)	0 to 915	916 to 1220	1221 to 1525	1526 to 1830	1831 to 2135	2136 to 2440	2441 to 2745	2746 to 3050	3051 to 3355	3356 to 3660	3661 to 3965	3966 to 4270
Depth (M)												
9	3:37	2:41	2:31	2:23	2:16	2:10	2:04	1:59	1:54	1:50	1:43	1:37
12	1:55	1:27	1:21	1:15	1:12	1:08	1:05	1:03	1:00	0:58	0:55	0:54
15	1:08	0:55	0:53	0:51	0:49	0:47	0:44	0:42	0:39	0:37	0:36	0:34
18	0:50	0:39	0:37	0:35	0:33	0:32	0:30	0:28	0:26	0:24	0:23	0:22
21	0:36	0:28	0:26	0:24	0:23	0:21	0:20	0:19	0:18	0:17	0:16	0:16
24	0:27	0:20	0:19	0:18	0:17	0:16	0:15	0:14	0:13	0:12	0:11	0:11
27	0:20	0:16	0:15	0:13	0:12	0:11	0:11	0:10	0:09	0:09	0:09	0:08
30	0:16	0:12	0:11	0:10	0:09	0:09	0:09	0:08	0:08	0:07	0:07	0:07
33	0:13	0:09	0:09	0:08	0:08	0:07	0:07	0:07	0:07	0:06	0:06	0:06
36	0:10	0:08	0:07	0:07	0:07	0:06	0:06	0:06	0:05	0:05	0:05	0:05
39	0:09	0:07	0:06	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05	0:04
42	0:08	0:06	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04
45	0:06	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:04
48	0:06	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03
51	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03
54	0:05	0:04	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03	0:03	0:03
57	0:05	0:04	0:04	0:03	0:03	0:03	0:03	0:03	0:03	0:03	0:03	0:03

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SPECIFICATIONS

CAN BE USED AS
- Dive Computer (Air or Nitrox up to 50% O2).

DIVE COMPUTER PERFORMANCE
- Dual Algorithm >> Buhlmann ZHL-16c based Pelagic Z+, or DSAT based.
- No Deco limits >> closely follow PADI RDP.
- Decompression >> in agreement with Buhlmann ZHL-16c and French MN90.
- Altitude >> Buhlmann, IANTD, RDP (Cross).
- Altitude corrections and O2 limits >> based on NOAA tables.

OPERATIONAL PERFORMANCE

Function:	Accuracy:
• Depth	±1% of full scale
• Timers	1 second per day

Dive Mode Activation:
- Must first be activated by button press.
- Automatic activation of Dive Mode by immersion in water.
- Cannot be manually activated deeper than 4 FT (1.2 M).
- Cannot operate at elevations higher than 14,000 feet (4,270 meters).

Unit Shutoff:
- 2 hours after activation, if no dive conducted.
- 24 hours after conducting a dive, if no further dives conducted.

Dive Counter:
- Displays Dives #1 to 12.
- Resets to Dive #1, upon diving (after 24 hours with no dives).

Dive Log Mode:
- Stores 12 most recent dives in memory for viewing.
- After 12 dives, adds 13th dive in memory and deletes the older dive.

Altitude:
- Operational from sea level to 14,000 feet (4,270 meters) elevation.
- Measures ambient pressure upon activation and every 15 minutes while in Surface modes.
- Does not measure ambient pressure when Wet.
- Compensates for Altitudes above sea level beginning at 3,001 feet (916 meters) elevation and every 1,000 feet (305 meters) higher.

Power:

• Battery	(1) 3 vdc, CR2450, Lithium battery (Panasonic or equivalent).
• Shelf life	Up to 5 years.
• Replacement	User replaceable (annual recommended).
• Use Life	1 year or 300 dive hours if (2) 1 hour dives per dive day.

Battery Indicator:
- Warning >> icon on solid when <= 2.75 volts, Battery change recommended.
- Alarm >> icon on flashing when <= 2.50 volts, change the Battery, will not function.

Operating Depth:
- Full functions >> to 330 FT (100 M).
- Watertight >> to 495 FT (150 M).

Operating Temperature:
- Out of the water >> between 20 °F and 140 °F (- 6 °C and 60 °C).
- In the water >> between 28 °F and 95 °F (- 2 °C and 35 °C).

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SPECIFICATIONS (CONTINUED)

BAR GRAPHS:

TLBG	segments
• No Deco Normal zone (green)	1 to 13 = 5 to 65% allowable tissue loading.
• No Deco Caution zone (yellow)	14 to 19 = 70 to 95% allowable tissue loading.
• Decompression zone (red)	20 = 100% tissue loading.

VARI	60 FT (18 M) & Shallower			Deeper than 60 FT (18 M)		
	segments	FPM	MPM	segments	FPM	MPM
	0	0 - 10	0 - 3	0	0 - 20	0 - 6
• Normal zone (green)	1	11 - 15	3.5 - 4.5	1	21 - 30	6.5 - 9
Normal zone (green)	2	16 - 20	5 - 6	2	31 - 40	9.5 - 12
Normal zone (green)	3	21 - 25	6.5 - 7.5	3	41 - 50	12.5 - 15
• Caution zone (yellow)	4	26 - 30	8 - 9	4	51 - 60	15.5 - 18
• Too Fast zone (red)	5 (all)	> 30	> 9	5 (all)	> 60	> 18

NUMERIC DISPLAYS:	Range:	Resolution:
• Altitude Level	Sea, L2 to L7	1 (level)
• Time to Fly	23:50 to 0:00 hr:min	1 minute
• Time to Desaturate	23:50 to 0:00 hr:min	1 minute
• Temperature	0 to 99°F (-18 to 60°C)	1°F (C)
• Depth	0 to 330 FT (100 M)	1 FT (0.1 M)
• Surface Interval Time	0:00 to 23:59 hr:min	1 minute
• Dive Number	0 to 12	1 (dive)
• EDT	0 to 9:59 hr:min	1 minute
• DTR	0 to 9:59 hr:min	1 minute
• FO2	Air, 21 to 50 %	1 %
• PO2	0.00 to 5.00 ATA	.01 ATA
• O2	0 to 100 %	1 %
• Safety Stop Time	3:00 to 0:00 min:sec	1 second
• Deco Stop Time	0:00 to 9:59 hr:min	1 minute
• Deco Total Ascent Time	0:00 to 9:59 hr:min	1 minute
• Violation Countdown Timer	23:50 to 0:00 hr:min	1 minute

⚠ **WARNING: If your dive computer stops working for any reason, it is important that you have anticipated this possibility and are prepared for it. This is an important reason for not pushing the no decompression and oxygen exposure limits, and a critical reason to avoid entering decompression.**

If you dive in situations where your trip would be ruined or your safety would be jeopardized by losing the use of your dive computer, a backup instrument system is highly recommended.

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INSPECTION / SERVICE RECORD

Serial Number: _____

Firmware Rev: _____

Date of Purchase: _____

Purchased from: _____

Below to be filled in by an Authorized AERIS Dealer:

Date	Service Performed	Dealer/Technician

NOTES

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NOTES

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A100

DIVE COMPUTER

OPERATING MANUAL

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